NAME _____ DATE _____ PERIOD _____

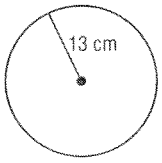
10-1 Study Guide and Intervention *(continued)*

Circles and Circumference

Circumference The **circumference** of a circle is the distance around the circle.

Circumference	For a circumference of C units and a diameter of d units or a radius or r units, $C = \pi d$ or $C = 2\pi r$

Example **Find the circumference of the circle to the nearest hundredth.**



$C = 2\pi r$ Circumference formula

$= 2\pi(13)$ $r = 13$

$= 26\pi$ Simplify.

≈ 81.68 Use a calculator.

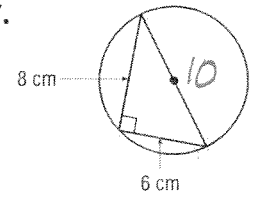
The circumference is 26π about 81.68 centimeters.

Exercises

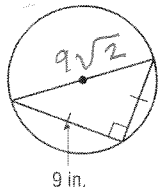
Find the diameter and radius of a circle with the given circumference. Round to the nearest hundredth.

1. $C = 40$ in. $40 = d(\pi)$ 12.73 in, 6.37 in
2. $C = 256$ ft $C = \pi d$ $256 = \pi d$ $d \approx 81.49$ ft $r \approx 40.74$ ft
3. $C = 15.62$ m 4.97 m; 2.49 m
4. $C = 9$ cm
5. $C = 79.5$ yd 25.31 yd; 12.65 yd
6. $C = 204.16$ m

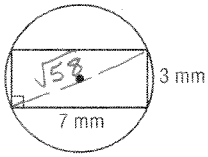
Find the exact circumference of each circle using the given inscribed or circumscribed polygon.

7. 

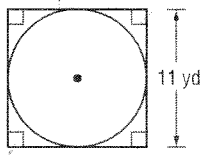
$C = \pi d$ or $C = 2\pi r$ $C = 10\pi$ cm

8. 

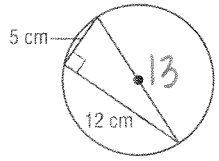
$C = 9\sqrt{2}\pi$ in

9. 

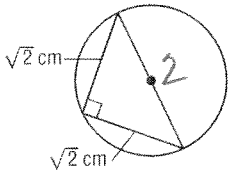
$C = \sqrt{58}\pi$ mm

10. 

$C = 11\pi$ yd

11. 

$C = 13\pi$ cm

12. 

$C = 2\pi$ cm